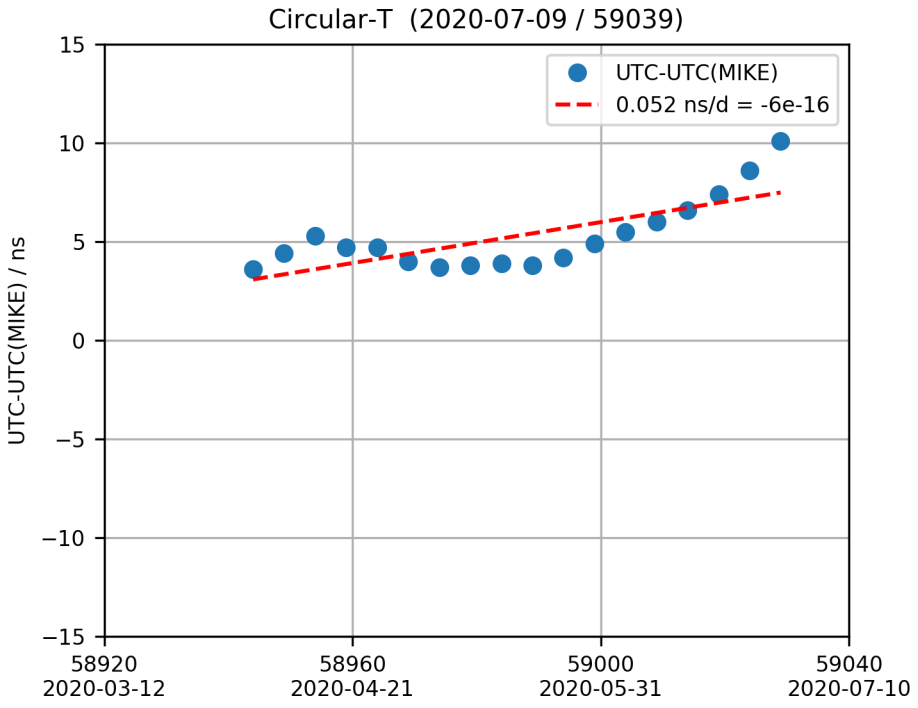
UTC(MIKE) Atomic Bulletin 2020-07

VTT MIKES Metrology monthly Time & Frequency bulletin.
Comments and questions to: time "at" vtt.fi
Date of publication: 2020-07-09 (59039)
Circular-T issues used for analysis: 388, 389, 390,
First day of analysis interval: 2020-04-05 (58944)
Last day of analysis interval: 2020-06-29 (59029)
ClockData for analysis: CDMI__20.04_, CDMI__20.05_, CDMI__20.06_,

Notes

58739 OTA-KAJA link asymmetry change (CS2)
58760 (2019-10-04) AHM4 frequency adjustment. Approximate model is y = -4.0497e-14 - 1.18953e-15*(mjd-58766)
58891 (2020-02-12) Apply steering correction to UTC(MIKE). +5ns over 2 months, y_steer=-5ns/60d= -9.6e-16
58919 (2020-03-11) AB2020-03 comments: New 1PPS measurement system installed 2020-03-09. KAJA(CS2) WR-node had power-cut ca 2020-02-27.
58919 (2020-03-11) AB2020-03 comments: Following MI04/MI05 calibration with PTBM in Dec19-Jan20 Circular-T uncertainty now record low 2.7 ns. MI04 is used as main receiver for now.
58953 (2020-03-14) AB2020-04, set steering correction to zero.
58966 (2020-04-27) AHM1=MC 1PPS moved backwards ~20us.

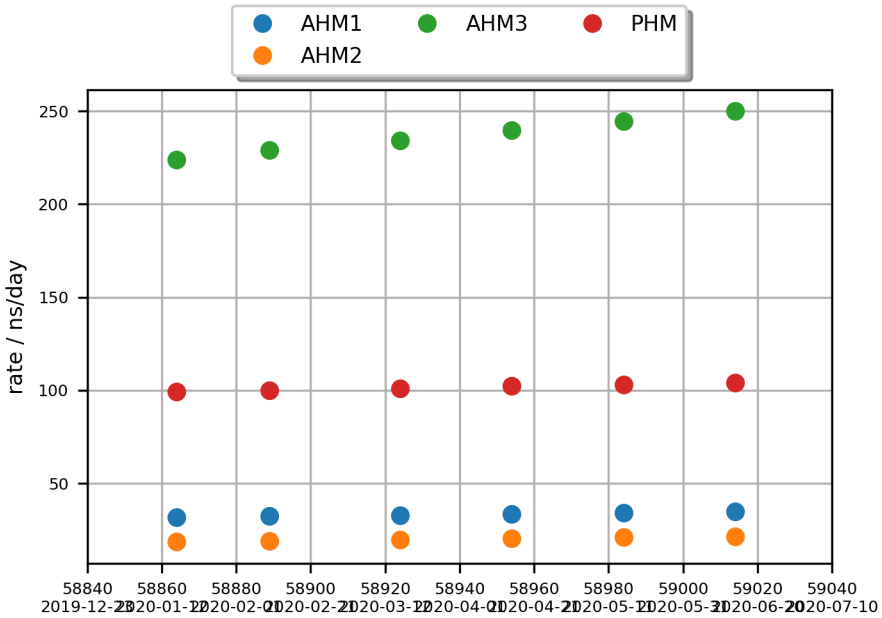
UTC-UTC(MIKE) as reported in Circular-T



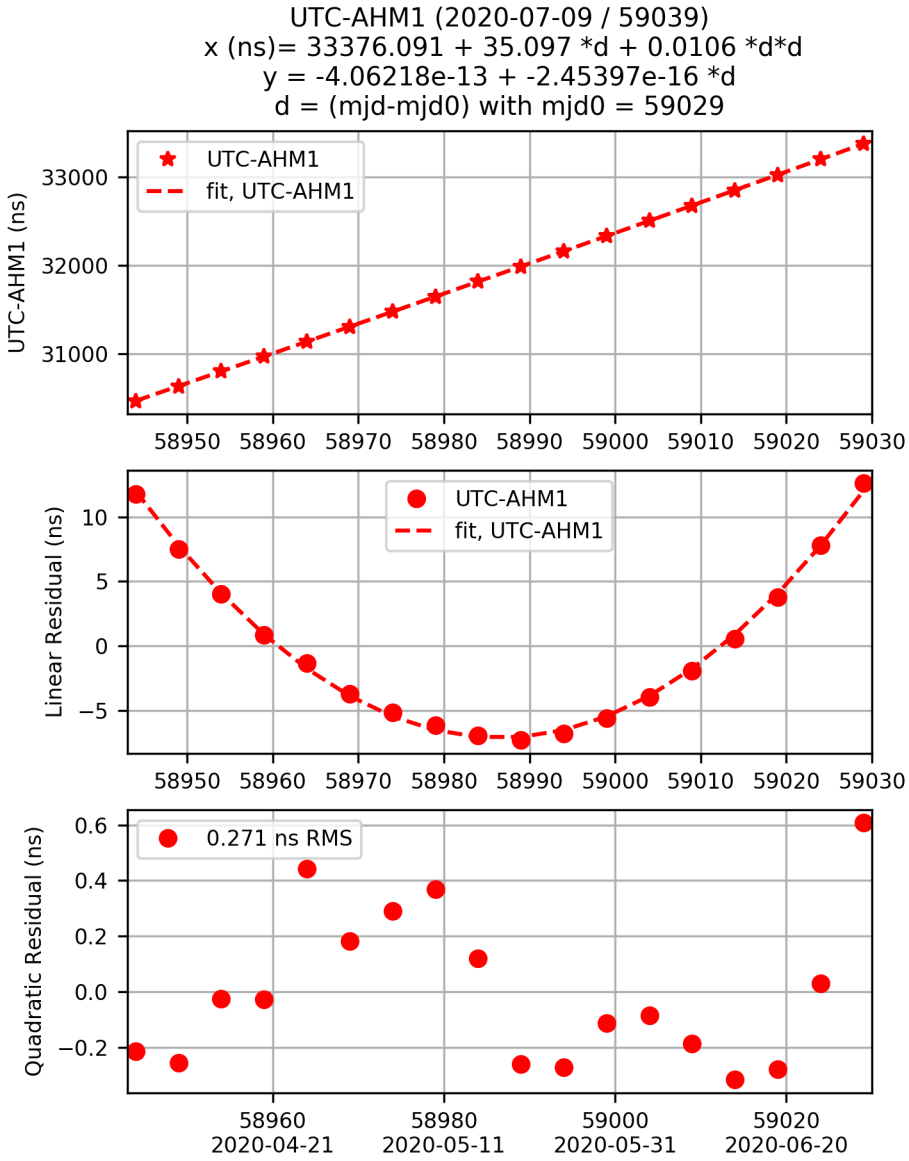
UTC-UTC(MIKE) is available on 5 day intervals on MJD dates ending with 4 or 9. Values are published monthly by the BIPM in Circular-T.

Clock Rates - Summary

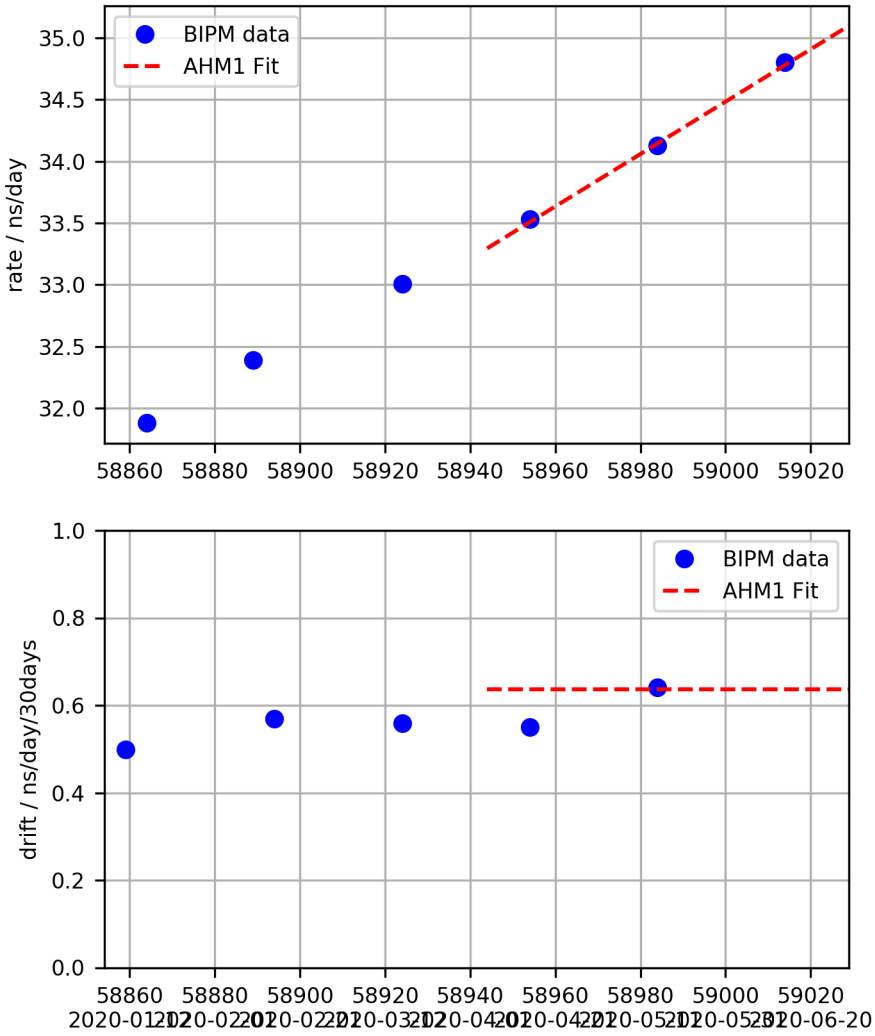
Clock rates as reported by the BIPM in the monthly r-report.



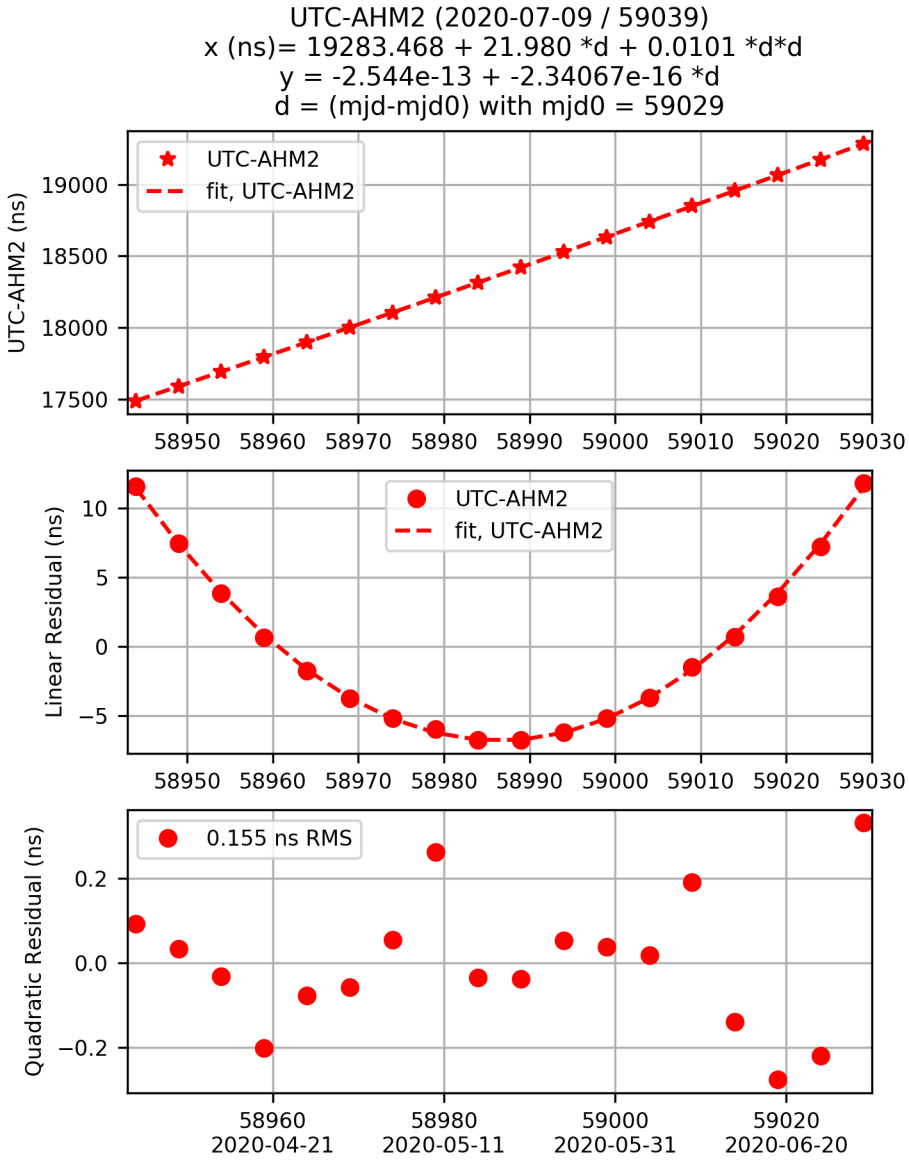
UTC - AHM1 Fit


UTC-AHM1 (2020-07-09 / 59039)
x (ns)= 33376.091 + 35.097 *d + 0.0106 *d*d
y = -4.06218e-13 + -2.45397e-16 *d
d = (mjd-mjd0) with mjd0 = 59029
UTC-AHM1
fit, UTC-AHM1
UTC-AHM1 (ns)
33000
32000
31000
58950
58960
58970
58980
58990
59000
59010
59020
59030
Linear Residual (ns)
10
5
0
−5
Quadratic Residual (ns)
0.271 ns RMS
0.6
0.4
0.2
0.0
−0.2
58960
2020-04-21
58980
2020-05-11
59000
2020-05-31
59020
2020-06-20

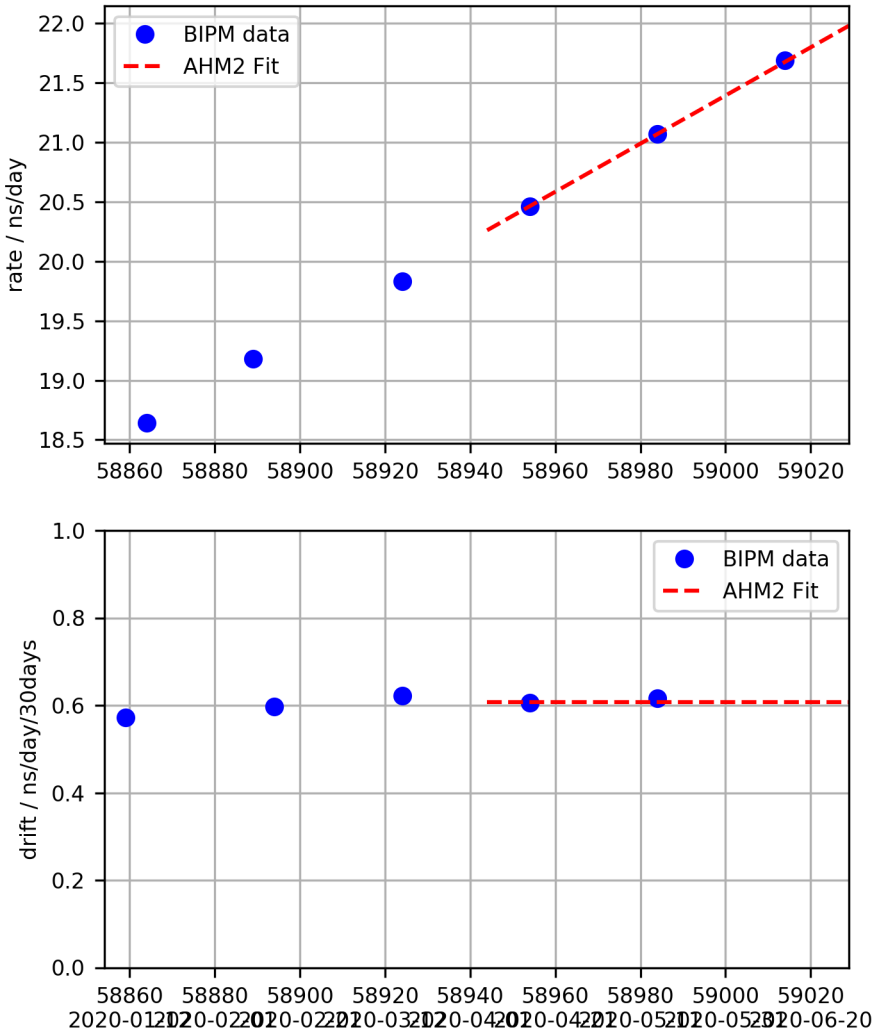
AHM1 Rate and Drift



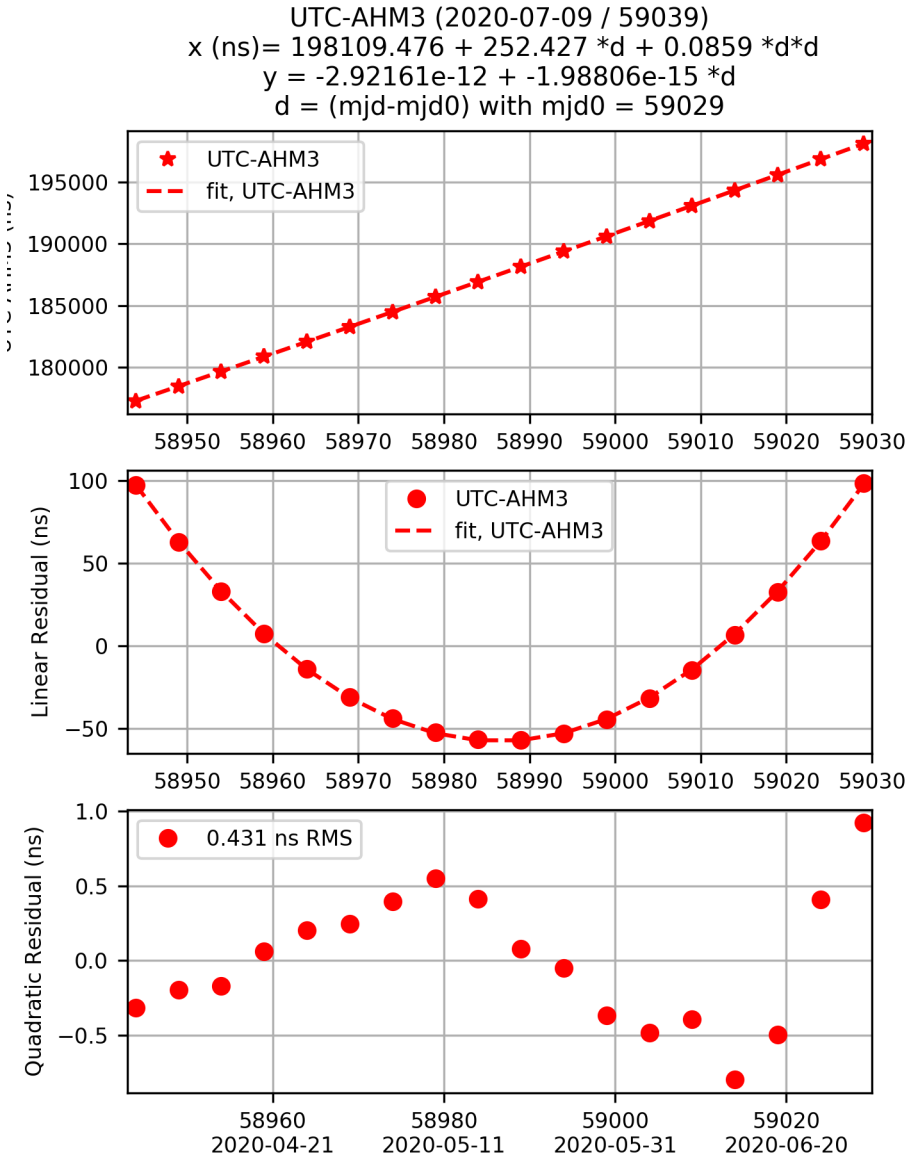
UTC - AHM2 Fit


UTC-AHM2 (2020-07-09 / 59039)
x (ns)= 19283.468 + 21.980 *d + 0.0101 *d*d
y = -2.544e-13 + -2.34067e-16 *d
d = (mjd-mjd0) with mjd0 = 59029
UTC-AHM2
fit, UTC-AHM2
UTC-AHM2 (ns)
19000
18500
18000
17500
58950
58960
58970
58980
58990
59000
59010
59020
59030
Linear Residual (ns)
10
5
0
−5
0.155 ns RMS
Quadratic Residual (ns)
0.2
0.0
−0.2
58960
2020-04-21
58980
2020-05-11
59000
2020-05-31
59020
2020-06-20

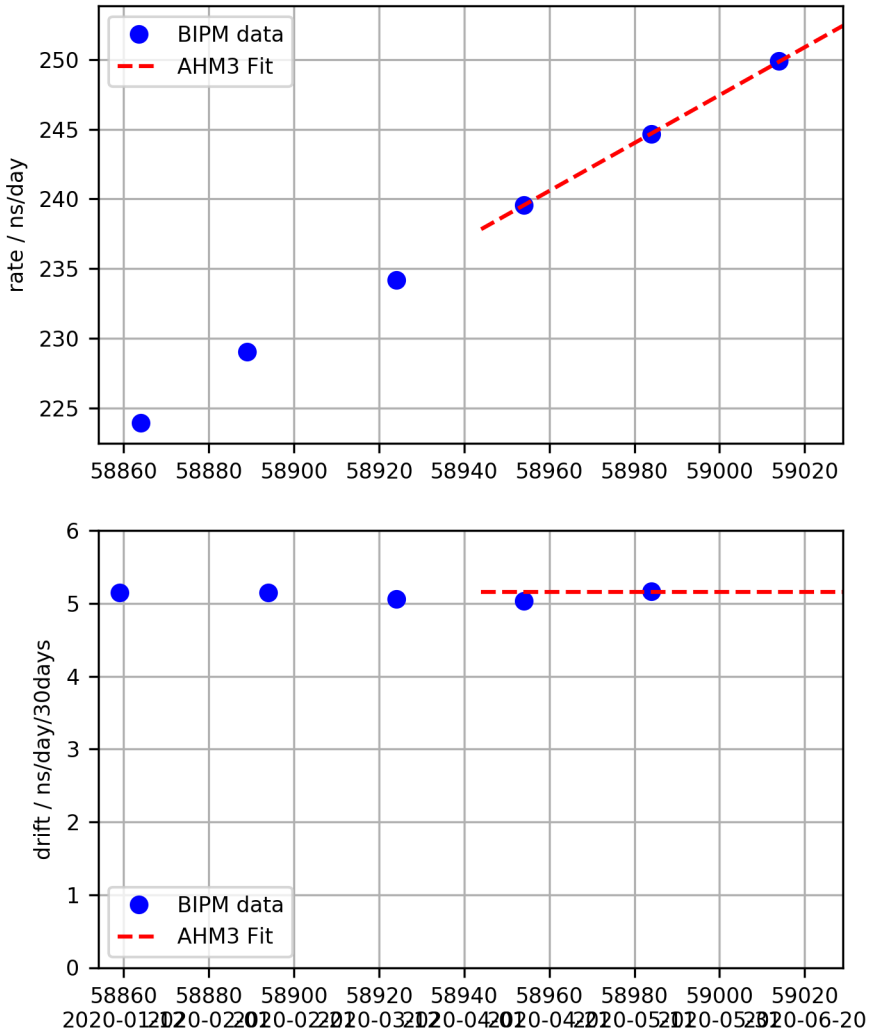
AHM2 Rate and Drift



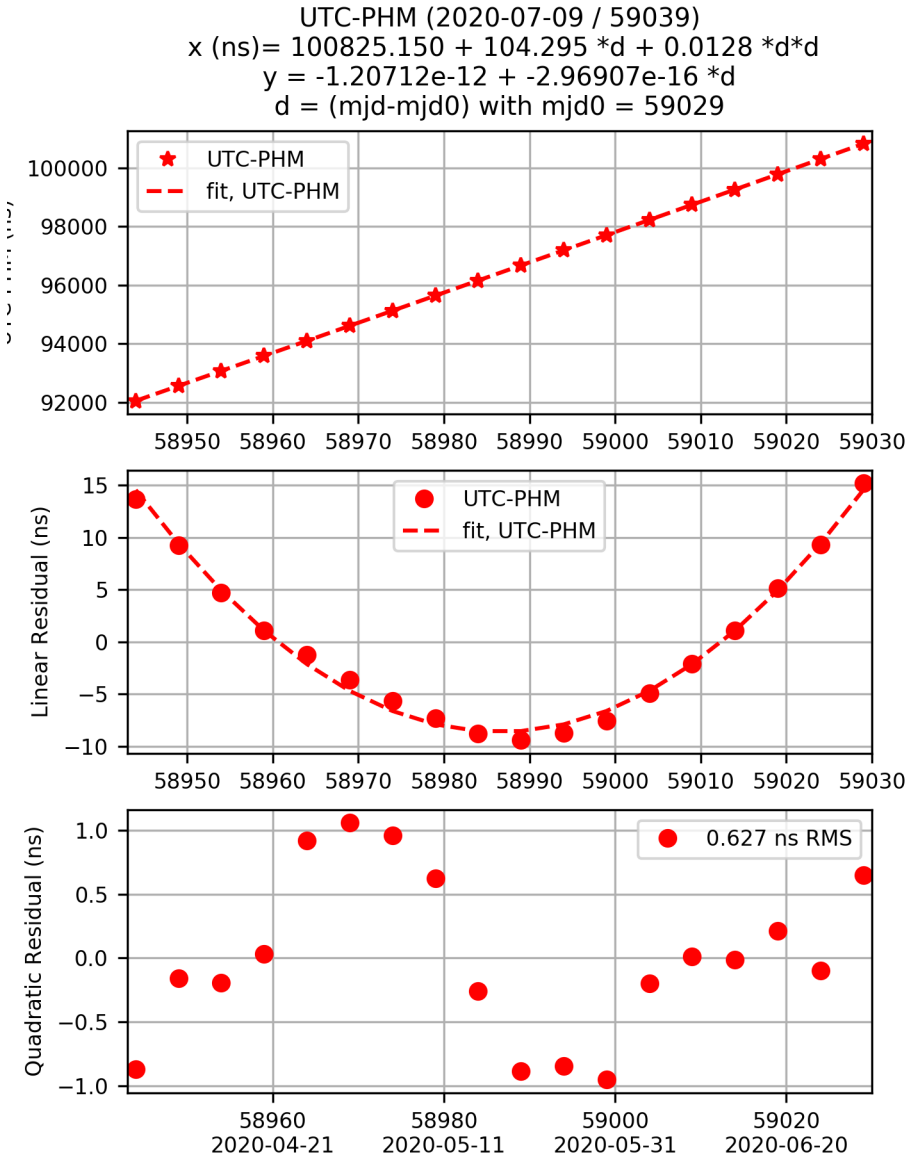
UTC - AHM3 Fit


UTC-AHM3 (2020-07-09 / 59039)
x (ns)= 198109.476 + 252.427 *d + 0.0859 *d*d
y = -2.92161e-12 + -1.98806e-15 *d
d = (mjd-mjd0) with mjd0 = 59029
UTC-AHM3
fit, UTC-AHM3
195000
190000
185000
180000
58950
58960
58970
58980
58990
59000
59010
59020
59030
Linear Residual (ns)
100
50
0
−50
0.431 ns RMS
Quadratic Residual (ns)
1.0
0.5
0.0
−0.5
58960
2020-04-21
58980
2020-05-11
59000
2020-05-31
59020
2020-06-20

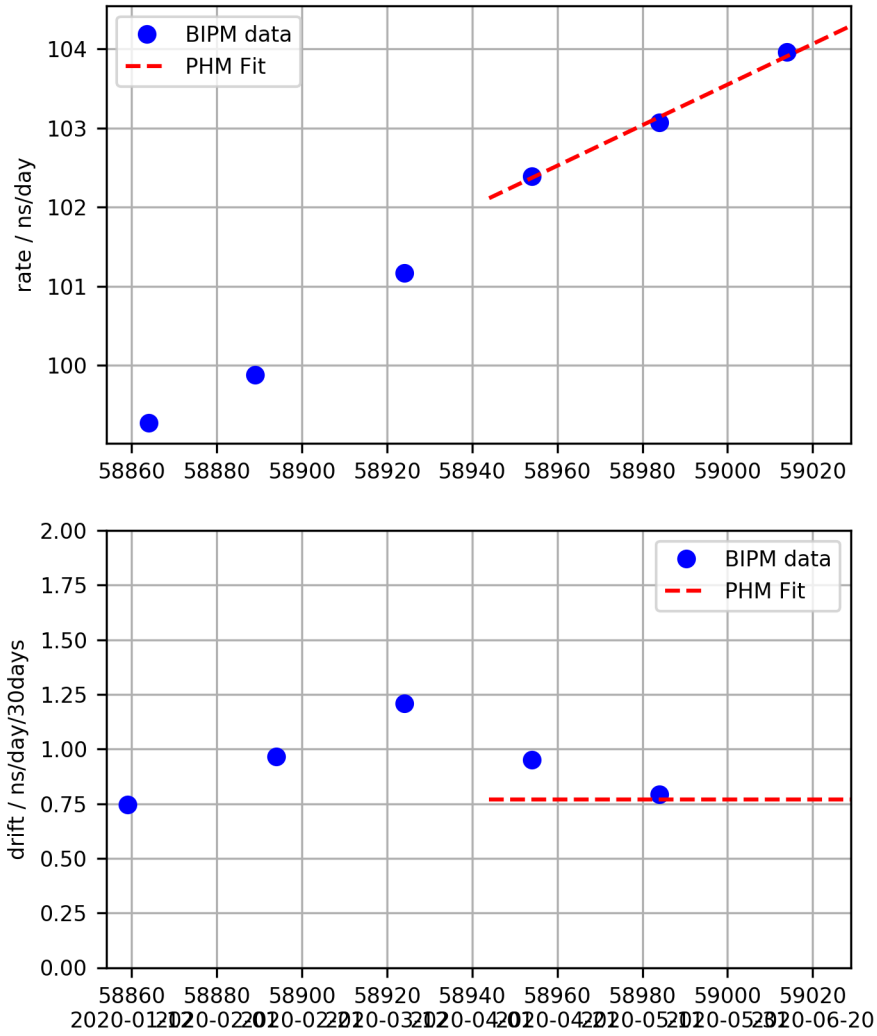
AHM3 Rate and Drift



UTC - PHM Fit

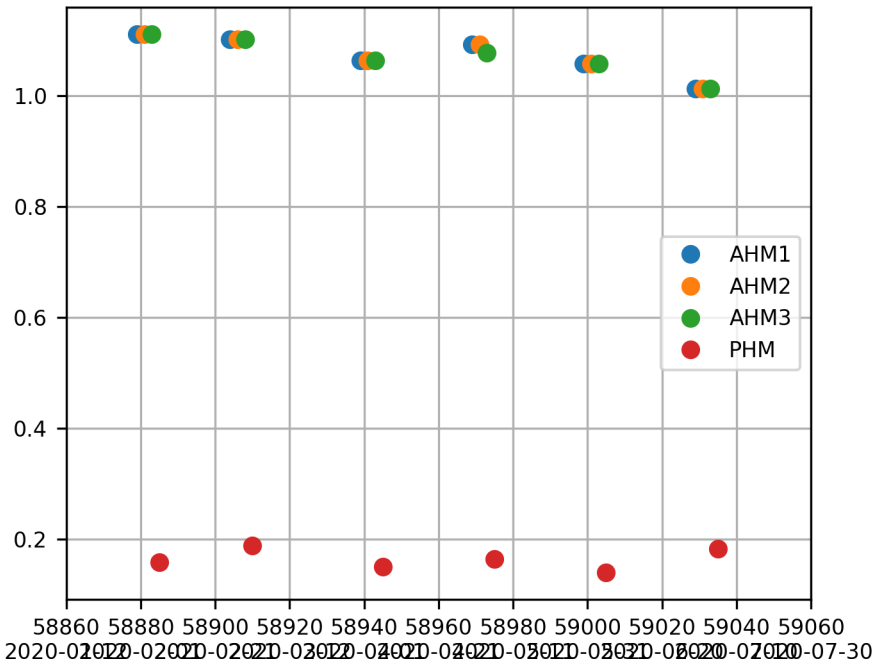

UTC-PHM (2020-07-09 / 59039)
x (ns)= 100825.150 + 104.295 *d + 0.0128 *d*d
y = -1.20712e-12 + -2.96907e-16 *d
d = (mjd-mjd0) with mjd0 = 59029
UTC-PHM
fit, UTC-PHM
Linear Residual (ns)
Quadratic Residual (ns)
0.627 ns RMS
2020-04-21
2020-05-11
2020-05-31
2020-06-20

PHM Rate and Drift



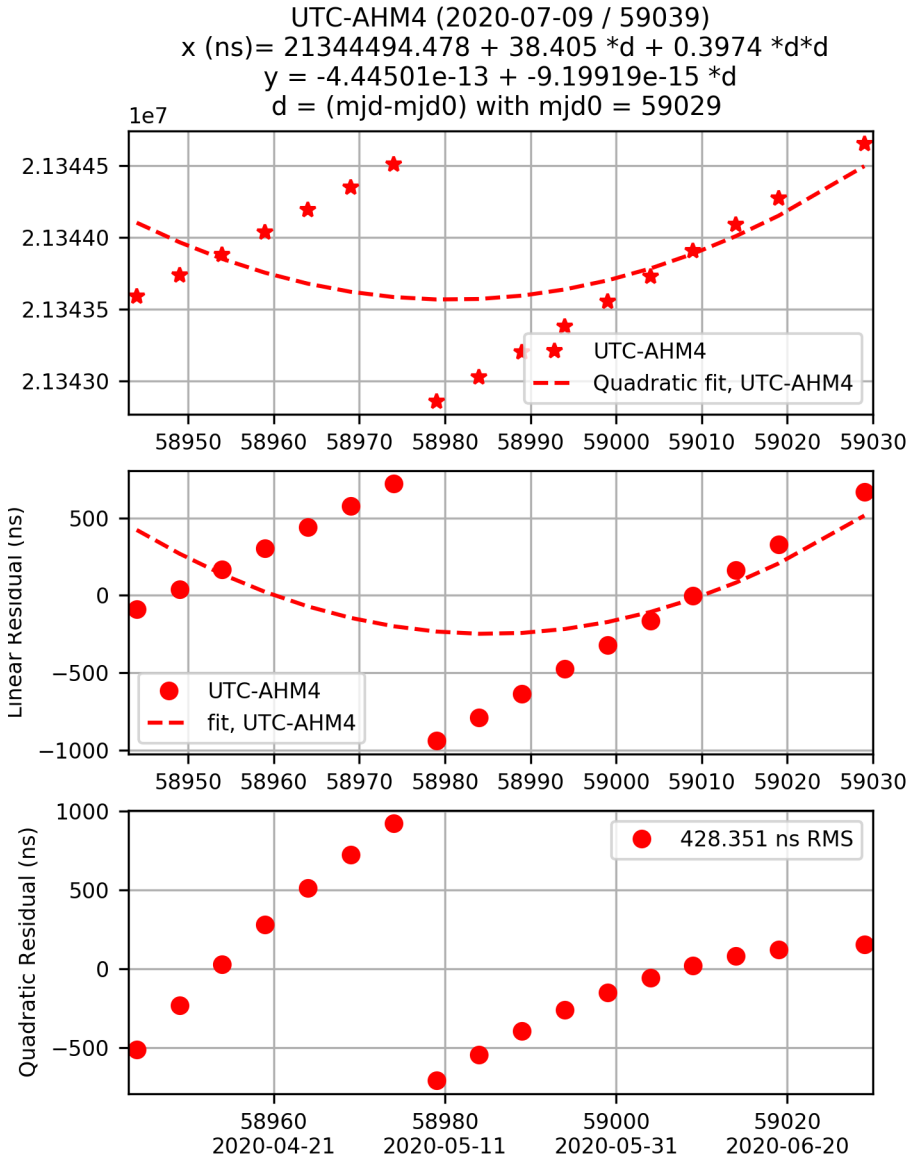
Clock Weights

RELATIVE WEIGHTS (IN PERCENT) OF THE CLOCKS FOR INTERVALS OF ONE MONTH ENDING AT THE GIVEN DATES

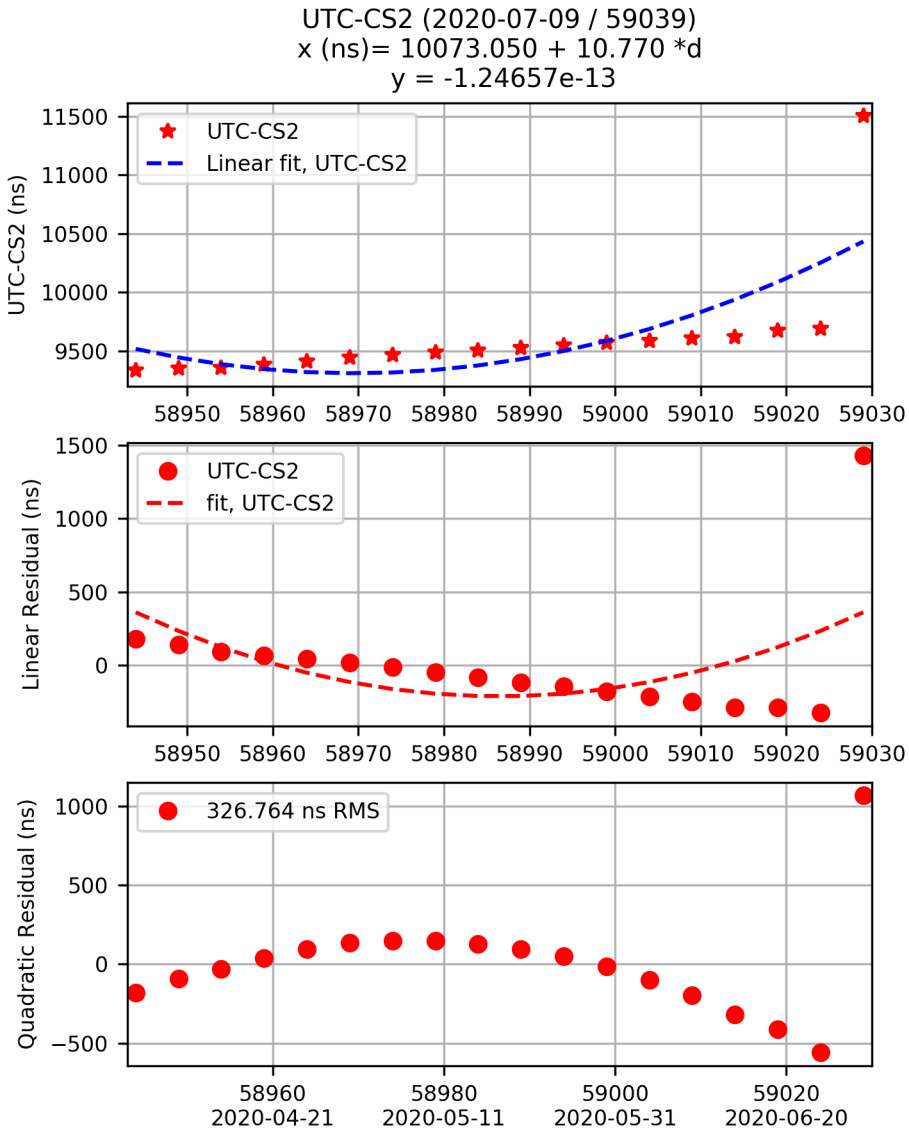


Remote Clocks

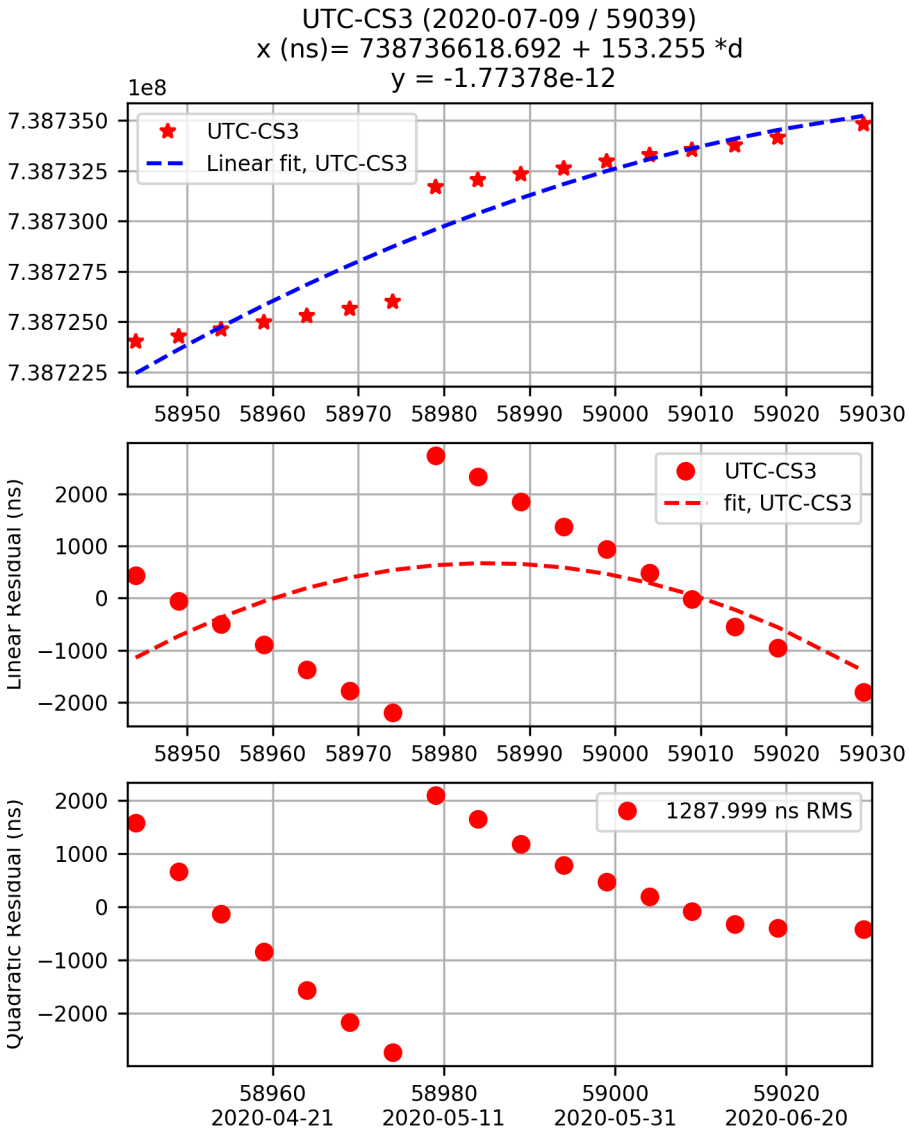
Remote Clock: AHM4



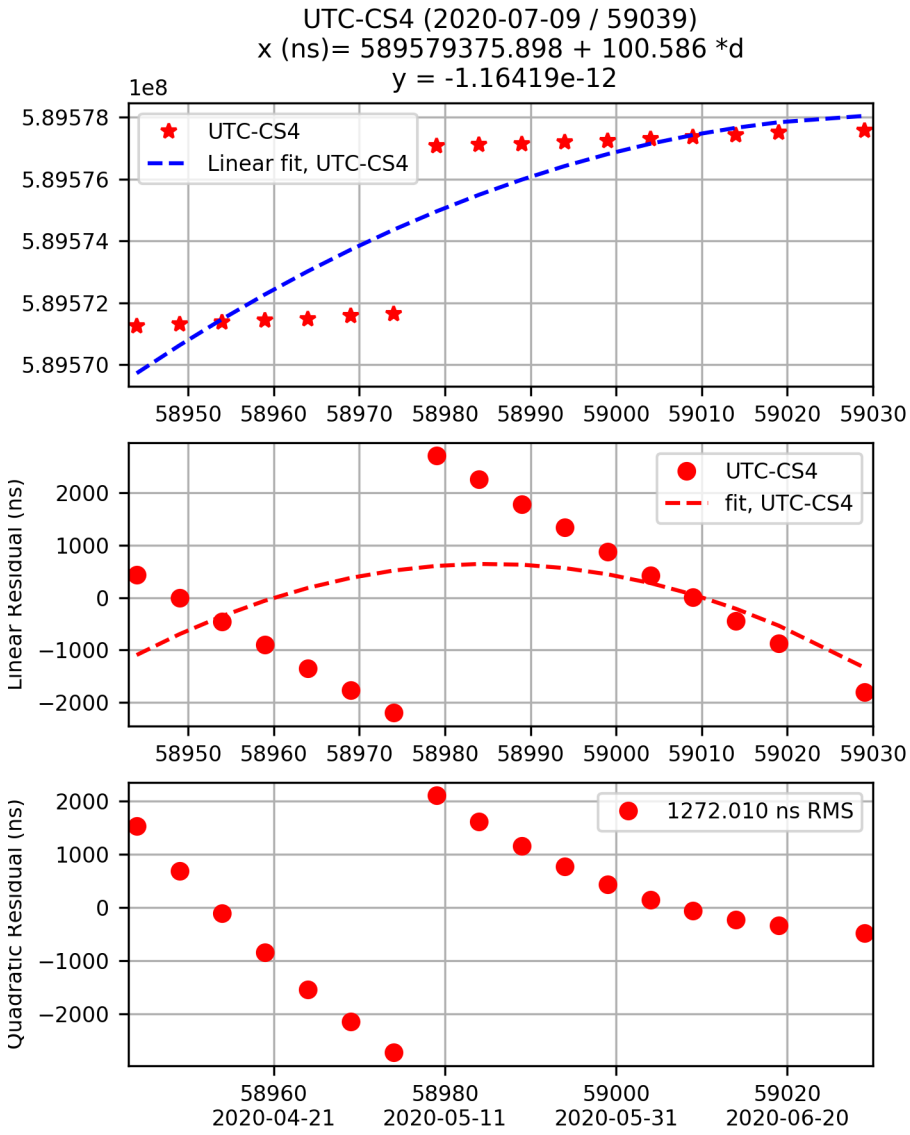
Remote Clock: CS2



Remote Clock: CS3



Remote Clock: CS4



End of Bulletin.